

8457 a

A

PHILOSOPHICAL SURVEY

OF

N A T U R E.

(Price One Shilling and Sixpence.)

Y

A

PHILOSOPHICAL SURVEY



(Price 6s 6d binding and slipcase)

A
PHILOSOPHICAL SURVEY
OF
NATURE:

IN WHICH
THE LONG AGITATED QUESTION
CONCERNING
HUMAN LIBERTY AND NECESSITY,
IS ENDEAVOURED TO BE FULLY DETERMINED
FROM INCONTESTABLE PHAENOMENA.

All are but parts of one stupendous Whole!
Whose body NATURE is, and God the Soul.

POPE.

L O N D O N :

MDCCLXIII.

G.Courtup.

N^o.46.

WoodStreet



N A T U R E.

HOW the several plastic powers of Nature were first set in motion, or whether they ever had a commencement, appears to be a question not capable of a philosophical resolution: much speculation may be indulged on both suppositions, until we are lost in the labyrinths of conjecture and hypotheses. Peremptorily to say, that *The Eternal First Cause*, at a certain point of time, but yesterday, as if he had just

A 3

awoke

12x

awoke from a sleep without beginning, caused matter to start into Being, from nothing! may be very consonant to revelation: but though we must grant revelation to be decisive in all points of information communicated by it, yet to argue from Scripture, and to argue from Nature, are quite distinct modes of reasoning: and revelation is as improperly introduced into a philosophical disquisition, as philosophical reasoning would be when we are attending to the dictates of revelation.

It is now proposed to indulge a philosophical argument, *a posteriori* from nature only, independent on any written dictates, and to follow whither-

soever the phænomena of it may lead us: nor is there any danger of falling into mistakes from this method, which may prove of ill consequence; since wherever philosophy may fail us, or may terminate in erroneous conclusions, we are happy in the alternative of having recourse to that information at last, which will be capable of bringing us back, and of rectifying our notions.

To argue from appearances to the history of our globe, we shall be strongly induced to believe that it has undergone many very remarkable changes and revolutions. We know by living experience, and by history, within those times in which its general

A 4 authenticity

authenticity is to be relied on, that the sea has encroached on the land in some places, and receded from its antient limits in others, and by reading the pages of nature itself, we see that these revolutions have, in the succession of time, been so total, that the tops of the highest mountains exhibit incontestable evidences of their having been sub-marine.

To these gradual alterations may be added those sudden commotions, the effects of which remain in many places, indicated by the confused state of the strata: the bowels of the earth have been torn by the explosion of subterranean fires, wind, vapours, and other unexplored

unexplored causes, which have raised islands in the seas, mountains on the land, have sunk large tracts of ground, and left lakes of water in their places. The received accounts therefore of the origin of the world, are very naturally resolved into the obscure traditional relations of the first beginnings of settlement, after very great, though respecting the whole, but partial changes, which may have desolated extensive regions. Nothing beyond uncertainty is however to be obtained by researches far backward: it will be more to our purpose therefore in the present enquiry, to reason from what we experience and see, concerning things as they are.

If we vainly attempt to extend our conceptions to the universe in general, to those numberless systems of planets which occupy space unlimited; the survey confounds us! we are lost! and to reduce the objects of our speculation within bounds which may be circumscribed by finite capacities, are obliged to content ourselves with the contemplation of that system of which our important globe forms so inconsiderable a part. Here if we examine the order, mutual dependence, and connexion, of the several revolving primaries, with their secondaries, and the central parent of light and heat, which vivifies them all; we shall find continual

tinual occasion to admire the Supreme Director of the whole ! From the solar system in general, if we come home to the globe which we inhabit, we shall here discover more latitude for observation, than we can ever adequately employ ; poor short-sighted speculators that we are ! but so far from finding arguments to justify the exalted notions we entertain of the dignity of our species, we shall see ample cause to be ashamed at the comparison of our pride with our littleness.

IN this light, limited as our abilities, and few as our opportunities, may be deemed, of collecting proper materials from which to establish fundamental principles

ciples of knowlege, we render our reasonings still more imperfect and delusive, by setting out erroneously ; by taking for granted points of knowlege not yet known, or perhaps ever to be discovered : especially discovered to be as they are assumed *. Our pride is the great source of what ought to be our humility : finding ourselves to be one class above baboons, we exalt ourselves to Gods ! free to will, and free to act, superior to motive, impulse or restraint ; producers of effects without causes ! sole Lords of the globe ! †

It

* What absurdities may not be expected to flow from principles which exalt CREDULITY, a weakness of the mind, into a virtue ?

† “ — It is as insignificant to ask, whether man’s will be free, as to ask whether his sleep
be

It is lost time to attend to, and to controvert hypotheses, and to unravel metaphysical jargon; the only true knowledge is that which is deduced from realities * whose existence is undeniable.

THE first and most evident law in nature is *attraction*: that quality in

be swift, or his virtue square: Liberty being as little applicable to the will, as swiftness of motion is to sleep, or squareness to virtue."

LOCKE.

* In whatever manner the qualities or affections of matter, and their compound operations may be accounted for, by the different systems of philosophers, affects not any argument depending on their uniform effects.

matter

matter by which the globe we inhabit coheres together in one mass, instead of being dissipated by the centrifugal force of diurnal rotation. Attraction and gravitation are in general indiscriminately used for the same power, but for precision it would be better to use attraction for the general tendency of all matter toward each other, and gravity for the tendency of all lesser bodies toward the earth. Attraction is the universal bond of nature: all lesser bodies necessarily tend to the earth; the earth, with its brother globes, are retained in their proper orbits by the sun; and the systems seemingly independant on each other, have doubtless some relative tie of connexion extending

extending to each, which exerted in all directions, maintains the equilibrium of the universe*.

* A proof of the impossibility of controuling the laws of nature, may be collected from the many trials to construct a machine, which should contain within itself the principles of perpetual motion. But all attempts to suspend, or to counter-work the action of gravity, have hitherto been, and always will be, vain. The projector's wheels may be made as complicated as he chuses, but when he hopes to set them going, he quickly perceives to his great mortification, that the centre of gravity inevitably settles in some point of the line perpendicular from the point of suspension. A machine will move until its power be spent; that is, until its spring be relaxed, or weight descended to its utmost limits: but that the effects flowing from these impulses should *regenerate* them! is certainly as absurd in theory, as the attempts have been abortive in practice.

GRAVITY

GRAVITY is the governing principle by which the courses of rivers are *necessarily* determined from the higher to the lower grounds: as by attraction and percolation water is filtrated and raised from lower to higher grounds; from whence it bursts forth in what are call'd springs. Heat is that active impulse by which water is rarified; its globules are dissipated into vapour, and float over our heads in clouds; until by cold, a condensing impulse, they are precipitated into rain, and as necessarily descend by the action of gravity to the earth from whence they first arose. Thus by gravitation, attraction, heat, cold, with the influence of the moon, &c. on tides, a continual
circulation

circulation of water is determined within and without the earth; by which that element, like the blood in the human body, is kept pure, and is dispersed every where for those uses it is necessitated to supply.

THE periodical return of the earth in its annual orbit, to the same distances and positions respecting the sun, necessarily occasion the successive revolutions of the seasons: these alternately regulate the various circumstances and modes of vegetation; necessarily produce those periodical changes in the face of nature, which we yearly perceive; and as necessarily regulate the actions of animals and of men, to ac-

B

commodate

commodate themselves to the various changes they experience and expect.

THE globe then on which we live, contemplated on the whole, exhibits sufficient evidence of being constitutionally acted upon by influences fixed and regular : so that to dispute its being subject to the law of necessity, is not less than to dispute its very existence*.

FROM a general view of the globe, let us descend to particular examination. Let us cast our eyes around us,

* All nature is but art unknown to thee ;
All chance, direction, which thou can'st not see.

POPE.

and we shall perceive all matter to be in motion*, to be continually changing its form and modification, and every production regularly producing its kind. Every species governed by particular laws assigned constitutionally to the class; as well as by general ones common to all.

THE oeconomy of nature is constant and uniform: wherever we may imagine a contradiction in her laws and operations, it is to be ascribed to our failure in understanding such instances.

* See through this air, this ocean, and this earth,
All matter quick, and bursting into birth.

POPE.

ALL the productions of nature, vegetable and animal, from the knot of grafs to imperial man, have this circumstance common, that they are produced in fucceffion, each by its peculiar feed: which feed deposited in thofe receptacles, deftined to the nourifhing the generative principles contained in them, are in their appointed feafon neceffarily ripened into the proper kind, and in turn produce feed to the continuance of the fpecies.

WITHOUT entering into the minutiae of botanical researches and diftinctions, it is fufficient for the prefent purpofe to remark, that earth is the proper matrix for the growth of vegetables.

THE seeds of plants are cast by the established order of nature, at the due season, on the ground: the rotting of the fruit in which they are contained, the decay of leaves, or of the plant altogether, during winter, wind and rain; some or all of these causes cover them: those kinds which man requires he carefully deposits in prepared earth, which by consulting nature, he learns how to suit to the peculiar constitution of the objects of his care: and he is *prompted* to conform thereto, that he may reap the fruits of his labour. The seed attracting moisture, and actuated by the kind influence of the sun, unfolds itself; it shoots fibrous

roots downward to fix its hold, and to imbibe sustenance, and is thereby enabled to extend its growth upward. The action of heat is the necessary principle of vegetation, which is improved to a greater degree of refinement in proportion to the warmth of the climate; as is proved from the rich fruits peculiar to the equatorial parts of the globe, compared with those of our more temperate regions, and again with those of the extremes of North and South.

As the spring comes forward, vegetation gradually advances, and the first appearances of verdure are improved to the perfection of the plant, and
the

the ripening the fruit which contains seed for the propagation of the kind. The plant, if an annual one, having attained its full size, the continual accession of sustenance from its roots is expended in confirming its texture. The surplus of moisture is carried off by perspiration, but the terrestrial particles are principally assimilated into the substance of the plant: the vessels therefore choke up, and at length can admit no more *; and the continued action of

B 4

the

* This account of vegetable decay, appears to include a general rationale of the necessary advance of old age, and of the final period of all organical existence. The food of animals sustains the body; and after the nutritive parts are extracted by the office of digestion, the residue is ejected. Beside the gross excrement, all
animals

the sun dries the plant to a stick. This is the necessary end of annual plants: in others, either the body or the root of the plant, or both, are constitutionally stronger; and the super-abundance of sap is in a greater proportion expended in multiplicity of leaves, and in the pulp of large fruit. These therefore

animals by peculiar canals, are continually passing other excrementitious humours, which are esteemed to be more in quantity than what are evacuated by the two principal excretory ducts. Were but the due quantity assimilated, to preserve the body in its mature state, or were all the evacuations taken together, equal to *all* the surplus, the animal would be immortal. But the fact is, that from birth to maturity, the body enlarges in bulk; from maturity it confirms in texture; the organs therefore grow gradually more rigid, and slacken in their operations; until unable to continue them longer, they totally stop.

fore dropping off, such vegetables still preserve a capability of re-commencing the same expansion into leaves and fruit the ensuing year, and for so many more as they are constituted to renew: and which is uniform in the same species.

IN autumn then, in proportion as heat decays, vegetation necessarily declines; perennial plants and trees shed those leaves no longer supplied with nutritive juices, and of which like annual plants they can perhaps admit no more. Vegetation remains in an almost state of suspension during winter, until the return of the genial season necessarily actuates it as before.

EVEN

EVEN during the absence of the sun in the darkness of night, vegetation is in some measure relaxed, and many plants contracting their leaves and flowers, are said by botanists to retire to a kind of sleep *.

HERE then we indisputably see that plants are plants, in consequence of the necessity of their construction, depending on the action of external influences: they are fixed in the ground, incapable of farther motion than is impressed on them by the impulse of the sun, or the action of winds. While moisture and a due temperature of warmth, render the ground and surrounding air capable of

* See Hill on the sleep of plants.

nourishing them, they necessarily exist through their uniform periods. Does the season or its particular situation dry the ground, so that they cannot imbibe due nourishment? is it drowned with excess of moisture, parched with heat, or chilled with cold? in either case vegetation is necessarily obstructed, and the plants as necessarily pine and die.

THE structure of plants is a curious but inexplicable subject of speculation! We may say that the sap rises through capillary tubes, we may assign or controvert the species of their food, and may adopt or dispute the sexual system; but we can never satisfactorily analyse the principles of their organization.

The

The only foundation of true reasoning is the information of known facts ; all conclusions beyond are vague. By these we know that vegetation proceeds by fixed uniform laws ; but we cannot be said to know farther : reasoning however by analogy, though it does not amount to knowledge, there is great reason to think it probable, that some degree of sensation or perception may be constitutionally essential to every mode of organization. This however cannot be determined of productions not endued with loco-motive powers. Microscopical observers say, that the vessels of plants are analogous to those of animals ; and though plants have not ability to shun injuries, we know that violent applications

plications will destroy either. We may tear, or cut off the limbs of both, both will bleed, and some vegetables even to death: as animals do, plants therefore may, feel pain in degree proportionate to the delicacy of their construction.

THIS though perhaps not more than conjectural, respecting vegetables in general, is improved to a degree that may merit the name of certainty, in attending to some plants termed sensitive, from their visibly shrinking from a touch: and though the motion perceived in them, is by some attributed to a mechanic influence of heat and cold; yet this will not totally discredit the notion of their sensation, if animal ac-

tion in general will admit of a mechanical exposition.

THE principles of organical existence under whatever mode it appears, are really analogous; fundamentally the same, but different in destination or degrees of perfection, if the latter phrase may be admitted: and may all therefore be comprehended under the term Vegetation.

It will not be easy to divide the productions of nature into classes, from particular qualities, or from properties of sensation and intelligence; as these appear to be so progressively assigned, as not to allow clear and precise limits of distinction.

If vegetation be accepted as a term including the whole successive productions of Nature, it seems capable of allowing but one distinction into two capital classes: and this division may truly be deemed a *radical* one. Namely, those whose roots are fixed into the earth externally; and, those which comprehend their roots involved within themselves. The one, imbibe their nourishment from the soil in which they are fixed; the other, successively receive into themselves a mass of their peculiar food, and discharge it when exhausted of its nutritive contents. The former of these classes has been cursorily considered, the latter is now the object

object of our more particular attention ; as the chief species in the progressive subdivisions of it, has by many been imagined to live in exemption from the necessary laws constitutionally regulating every circumstance attending the existence of all the rest.

HAVING considered vegetables in the common acceptation of the word, in the gross, without attending to the various species of plants, shrubs, and trees, and seen the necessary determinations of their existence ; we will now first, without tracing the various degrees of bodily or intellectual excellence, consider what is called an animal, according to its general properties, abstractedly.

AN animal then, as was before observed, exists detached from the ground; and is therefore endued with loco-motive powers. Its main trunk or body is elevated upon a convenient number of pillars or legs, articulated to sustain it, and to convey it from place to place; and it is sensible of all impression from external application. Being necessitated to collect its aliment, the animal is by its formation qualified so to do: it is furnished with organs to seize, and to grind its food, preparatory to its undergoing digestion in the internal receptacle to which it is then passed: and heat, as has already been proved, being the active principle of vegetation,

C

the

the animal is organized alternately to inspire and respire air, by which the intestines with the contained food being agitated, heat, digestion, and a circulation of juices are maintained, without which all its functions would cease, and putrefaction ensue. It has a supreme seat of sensation called the head, in which several peculiar perceptions are lodged: *first*, the perception of distant objects without positive contact, by the ministration of two (generally) curious visual balls capable of being directed any way for the regulation of its motion: *secondly*, the perception of sounds, by the means of two admirable cavities with dilated orifices, framed to catch the undulations
of

of the air agitated by distant percussions; of which the animal being thus warned, directs its eyes toward the sounds, and seeing the causes, is impelled either to retreat from the danger it may apprehend, or to advance to the good it may see reason to hope: *thirdly*, a perception of the effluvia of bodies, inhaled by two canals through which the animal breathes; by which it is partly enabled to judge of its proper food: *fourthly*, a more intimate perception of the qualities of its food during mastication; the seat of which is in the tongue. These are the perceptions whose peculiar organs are in the head; the perception of impression from all external application,

being diffused throughout the whole body.

THE concentration of all these perceptions in the sensorium of the brain, to which the nerves ministering to them all lead, and terminate, constitutes that intelligence, which enables an animal to judge of all the objects of its experience: and thence to perform all those actions which from construction and situation it is impelled to do.

THE seat of the mind where all the powers of the body unite, must certainly be of most exquisite texture! but how, or after what mode they are refined into reflexion, is impossible for

us to determine: but we see the fact to be so*; and it is folly to deny any thing which does not include a positive absurdity, meerly because we cannot comprehend how it is performed, or are unwilling to allow it. A knowledge of the laws of nature, traced *a posteriori* from their constant effects, enables man to construct many curi-

* Left this point be denied, and asserted to have been disproved; the writer takes this opportunity to observe that he is not ignorant of the controversy between Dr. Clarke and Mr. Collins; nor on which side of the dispute, the plain truth of the argument, on the one hand, and the arts of sophism, on the other, rest. The utmost that genius and learning employed in the defence of mistaken or fallacious arguments can effect, is to perplex what will not admit of demonstration: and such *labours* are from their obscurity frequently more admired than close reasoning.

ous machines, whose powers are capable of investigation by the abilities which contrived them : but the organization of matter, is the effect of creative power, and which, only the power that organizes can analyse.

THOSE who undertake to deny the evidence of all animal existence, that organization of matter can be refined into intelligence ; because they cannot comprehend it* ; must certainly comprehend every other mode of organization which they do not deny : let such an one then clearly explain the modifi-

* Gentlemen who perhaps yield nevertheless an entire assent to the doctrine of Transubstantiation, or to the Athanasian Creed, &c. or to both,

cation of matter to the production of a blade of grass ; and if he can do that, nothing hinders his making grass himself, *without seed*. What ! can he neither account for its growth, nor make it ! strange ! yet grass exists ; and that he does not deny its existence, proceeds from his not being under any temptation so to do : and animals will also continue to think, however unwilling he may be to allow it.

HAVING exhibited an abstract idea of an animal, let us for illustration realize it, call it a horse ; examine how he is actuated, and how he comes by his ideas.

VARIOUS are his needs, and various his abilities of action to supply them, and those needs are the governing impulses which prompt him to all his motions. The colt when he drops from his dam, opens his eyes, and becomes conscious of external objects, which as yet he cannot understand ; the assiduity of his mother about him, renders her the first object of his notice : the second ability of which he becomes conscious, is the use of his legs, of which their articulation, as being parts of himself, necessarily teaches him. His dam being the only object with which he is yet acquainted, when his stomach first craves nourishment, and he feels the sensation
of

of hunger, the organs destined for the reception of food dictate their use, and he applies to her for it. Having found the proper vessels of supply, and that by suction his appetite is satisfied, he is fairly enabled to live; and every circumstance proceeds in a necessary connexion of cause and effect until vitality ceases, and he is resolved back into the first principles of matter. But to proceed.

A SUPPLY of food being found, he walks beside his dam, the fountain of it; and from what he sees, and from what he feels, acquires a stock of ideas, which he exercises and enlarges while his strength encreases. Seeing his mother

ther stoop down and bite the grafs, he at length defires and attempts to do the fame; and when his teeth are grown he effects it. Thus finding a new species of food, he repeats the experiment, and in proportion as he eats grafs, he sucks less milk; this then dries away, and he is by necessity reduced to subsist entirely upon his new found provision. As he learns to eat, so he learns to drink, by going with his mother to the brook.

RECEIVING no more food from his dam, the attachment to her naturally declines, and other attractions operating, he wanders gradually more at large: and in proportion as he requires the

the less of her care, she takes the less care of him. Thus are they estranged from each other. Hunger stimulates him to eat; when his food requires moisture, he thirsts; this impulse reminds him of the brook, and guides his steps necessarily toward it. When these wants are supplied, his juices circulate briskly, and inspire each nerve with vigor, which concentrated in the brain impels him to sport and gallop among his comrades; is there a mare among them? this stimulates another desire, and he is uneasy until he attains the proper gratification. Does another horse entertain the same desire, the impediment enrages both; they bite and kick each other, until the weaker is necessitated

necessitated to give up the contest :
at last, when he is weary he lies down
to rest.

OUR colt is by this time enslaved
to another species of necessity. Being
grown to near his full size and strength,
man demands his assistance to carry him
on his journeys, or to perform other
labour. He therefore inures him
to shackles, confinement, and obe-
dience, until he has trained him to his
particular purpose: from which time
he is more or less necessitated to a life
of labour dependent on his master.
When therefore he is at grass, and his
master needs his service, he carries a
sieve of corn, and a bridle to the field.

The

The horse is enticed by the corn, is caught, and is necessitated to carry his rider, or his burden, whithersoever he is driven.

Thus is the whole course of his life spent in obeying an uninterrupted series of impulses, which commence with his birth, and terminate only with his death. In the daily repetition of these actions, new circumstances relating to them occur, and he acquires just so much knowledge as his abilities of action and experience have taught him.

This is a true picture of life :
which, particular circumstances being
adapted

adapted to particular situations, is, as to the general outlines of it, the life of every being the world produces.

BODILY abilities limit the extent of mental faculties : and let us view what animal we will, the equilibrium will still be maintained ; particular defects in nature excepted, which sometimes happen in the limbs, sometimes in the nobler parts. The capacity of the mind is empty, or is nothing at birth ; perception by the senses, and experience by action, form it and store it with ideas ; which, variety of circumstances enable it to compare and compound, so far as that variety extends. Thus an oyster cannot perform so many motions as a flying-fish ;

flying-fish; consequently, has not so much knowlege of the world. It is not capable, so far as is known, of shifting its situation; but it can open and close its shell, and if any stranger offers to intrude within its enclosures, it can shut its doors with some tolerable degree of force. What it can do, is what it was intended to do: it certainly fulfils the purpose of its existence; and what being can do more? A goose is thought to be a silly fowl; but it has the wisdom of Solomon within its sphere of action; and it is not a wise expectation to require it to possess knowlege beyond. It knows grass when it sees it, and its feet being webbed, it can swim over any piece of water which

3

may

may lie between it and the field. It goes abroad to feed in the morning, and comes as constantly home to rest at the close of day : its brood goes with it, and learns all the knowlege the parent possessed; and which indeed the circumstances of formation and situation chiefly ineulcate. This bird therefore fills its rank as becomingly as any other animal.

As in the fixed vegetable genus, it was not esteemed needful to enter into a minute examination of the various distinctions which mark the species, they being in general proved to be necessary in every circumstance; neither in the genus of animals is it thought requisite

requisite to compare the powers of the almost infinite diversity of tribes, which inhabit earth, water, and air. That they all live and act in their respective stations, inevitably by the necessity of their natures, has, it is presumed been made clearly apparent in the general review of the life of a horse. We will therefore only use two or three steps upward to *man*; in whom the peculiarly happy construction of body enlarging his abilities of action, and and *thence* the operations of his mind, amply compensate inferior strength, and render him the superior inhabitant of the globe.

CARNIVOROUS animals are from their ways of life necessitated to the practice of many stratagems, to entrap and overcome those on which they prey; who in turn knowing their enemies, endeavour to shun them; thus the contest is a trial and exercise of strength and wit on both sides: which however generally decide in favour of the pursuer. These therefore naturally acquire more knowledge than harmless herbaceous animals. Two or three familiar instances will sufficiently establish this point.

WHAT man who sees the wariness with which a cat approaches the place
where

where she hears a rat, or a mouse scratch, but must acknowledge the cunning foresight of the animal, so careful not to be seen, nor to make the least noise, until she is within a spring upon the attractive object of her desires? Not even himself with all his enlarged faculties, can correct the conduct of the animal he may despise. The rat, for whom so many snares are prepared by man, as well as by his natural enemy the cat, frequently evades them with a degree of caution surprizing to those who are acquainted with it. Both rats and mice shun the haunts of the cat, warned by the smell of her, unless forced by the necessity of hunger to venture within them, when the strength

this impulse is increased beyond that of fear.

THE very mention of the fox, supercedes any encomium on that sagacity which was celebrated in the instructive fables of the antients, and is admired by every child as soon as it can spell its letters. His many devices to circumvent poor artless poultry, and to delude the pursuits of his enemies the hounds, are so many proofs of the universal necessity which actuates all nature: since without these arts he could neither acquire that food which he is destined to seek, nor extricate himself from those dangers to which such a rapacious way of life exposes him.

THE

THE dog is a creature with whom we are intimately acquainted; in his natural wild state he is an animal of prey: and is therefore of acute senses, and constituted for activity. His agility, and docility, render him an acceptable servant to man, who supplies his wants because he needs his powers. The dog finding an able friend, and a powerful master in man, attaches himself to him both through love and fear: his natural temper is therefore in a manner humanized. Of dogs there are divers breeds, differing in peculiar qualities; some valued for their delicacy of smell, some for the swiftness of pursuit, some for the fierceness of their spirit, and the

rest for other peculiar advantages. Man applies these various properties to his own purposes, to which their natural propensities are cultivated; for the discovery, pursuit, acquisition, and destruction, of variety of other animals, whom he delights to hunt, desires to eat, or to destroy. Not that man is able to improve the conduct of animals acting immediately for themselves; but is under a necessity to modify their actions adapted to *his* peculiar purposes. Beside these uses, dogs are taught many odd tricks, which added to their natural qualities, prove them to be animals of very extensive capacity: this is so well known, as to render it superfluous to insist on.

IN

IN the several species of monkeys, we see the approaches of nature, from the prone position of quadrupeds, to the erect carriage of the human figure. The monkey, though he walks on four legs, yet at other times he sustains himself in an upright position, using his two fore legs in various capacities. Indeed in his wild state, he is mostly erect, either climbing, or sitting among the branches of trees. His legs are neither terminated with talons nor hoofs, but, the fore ones particularly, are articulated into fingers like the human hand. Hence he is capacitated to the performance of actions, with such agility and dexterity, as are surprizing to

those who do not reflect on the sources of his skill. The make of his head, the features of his countenance very nearly resemble humanity, his ears are exactly of the human form ; and anatomists will convince us, that the resemblance is not greater in his external figure, than in his internal construction.

ALL that we observe in the monkey race, flows entirely from their organization, as we uniformly behold in every other species ; and they seek their good necessarily to the extent of their abilities to acquire it. By the many droll pranks we see them play, we perceive their intelligence improved
even

even to a strong susceptibility of humour, of which instances must occur to every reader's mind, who has ever had opportunity and inclination to observe them: and we wonder at similitudes, which we will not ascribe to similar causes.

IF common monkeys are admired by some and hated by others, for their resemblance to mankind, what shall we say to that species known by the name of Orang-outang, or wild man of the woods? these animals not being so numerous, or so easily caught and tamed as others, are not so well known among us; but we have sometimes had them, and their figure and description are recorded by many authentic writers.

It is said, that the Orang-outang is common in the islands of Borneo and Ceylon ; that he is nearly of the shape and stature of man, and possesses no inconsiderable share of his intelligence. They are said to have hair only on their backs and reins ; that they are strong, bold, and nimble ; and oppose themselves in a defensive manner against their hunters : that they are very amorous toward women, who cannot pass unmolested through the woods where they are found : that the natives catch them, teach them to walk entirely on their hind feet, and to employ their hands in many domestic services, such as filling out liquor, cleaning glasses, turning spits, and many other employments,

ments, which they perform with much dexterity.

LET us now pause, and take a retrospective view of what we have hitherto observed in this brief examination of animal existence. We have seen, that being necessitated to seek and chuse their peculiar food, animals are endued with loco-motive powers, and with divers perceptions to regulate the exertion of those powers: these several powers and perceptions uniting, are refined into an intelligent mind; which is less or more extensive in its operations, as are the bodily abilities ministering to it*. Receiving its ideas primarily
from

* The brains of animals are said to increase in size, in proportion to their share of intelligence, through

from the effects external objects have on the body wherein it presides, they are the only materials the mind hath to compare and compound : and it is wholly and necessarily actuated and governed in its operations by the different relations other bodies have to it, under the various circumstances in which they are found to affect it.

ALL this is the result of mechanism ; but being the mechanism of nature, is, as was before observed, superior to our abilities of analysing farther than by its effects. Thus much then we may be said to know : that the information of

through all degrees of sagacity upward to man : in men of sense larger, than in those of weak understanding, or fools.

the

the senses is mechanical, being the constant necessary action of bodies on certain organs, constituted to be so affected: these organs by their proper nerves, transmit by mechanical communication, mechanical impulses to the sensorium: the mode of their operation here cannot be ascertained; but the causes being mechanical, the effects must be so likewise: reflexion necessarily determines the will, and the will determines the action. This is all we can discover, were volumes to be wrote on the subject. When the manner in which material objects operate on the mind is known, then and not before, may we undertake to explain how ideas actuate the body. The influences of the prejudices of education

cation on mankind, may indeed require amplification to convince them, but this paragraph comprehends the whole of what is meant by intelligence and necessity.

BUT to proceed: having traced the progress of *organization*, *intelligence*, and *necessity* thus far upward, the next and last degree in the ascending scale is MAN: that Being, in whom are united all that we see valuable in the animal world: that Being, who if he is not what some discontented individuals aspire to be, is yet, viewing his powers collectively, the most compleat animal system which our planet produces.

ERECT

ERECT in his form, he is organized for any mode of action which his occasions in all varieties of situation call for: he can invent machines to perform what his own natural strength is not equal to, and maintains a superiority of power and command over the whole race of animals: he can construct vessels to convey him over extensive seas, and has thereby opened a communication among the natives of the most distant regions; and accommodates himself to the most contrary climates. But that faculty which distinguishes him exclusively from all inferior animals, that faculty which contributes more extensively than any other to the enlargement of the powers of his understanding, is the ability of *Speech*.

EVERY

EVERY species of animals has its peculiar cries, by which the same kinds are known to each other, and by which they communicate general expressions of their passions, as fear, joy, and desire of copulation : but man is capable of varying his voice at pleasure*. This is a most happy ability ! since by this power, men have framed and fixed an infinite variety of particular expressions adapted to all sensible objects, and substituted as the signs of abstract ideas, which latter are thus as readily used,

* A Parrot can mimic the tones of other animals, and even the speech of men ; but incapable of an equal facility of action, he cannot apply them ; he therefore joins no proper ideas to his words, and does not enlarge his mind merely by pronunciation.

and

and as easily recalled to remembrance as the ideas of any material objects of our notice. Thus have mankind opened a mutual intercourse of sentiment, by which they are enabled to enrich their own minds with what the experience of others furnishes : and the many connexions which beings of such capacity form for mutual advantage, supply a continual fund of materials with which to build the principles of knowledge and opinions. So that it is scarcely to be wondered at, that they should contemplate their own talents and acquirements, with a pride, which may mislead them in endeavouring to account for them.

WE have nothing inherent but a capacity of receiving impressions by our senses ; and we compare, compound, and analyse the ideas they give rise to, in proportion to our experience ; assisted in these complex operations of the mind, by intercourse of sentiment with our fellow-creatures.

INSTINCT and reason are indeed two words used to express distinct powers of mind, the former of which is allotted to brutes, and the latter or indeed both, to man. This however appears to be an unmeaning distinction ; what are called two powers, being in reality only different degrees of the same power :

power: instinct being used for those more direct perceptions of the mind, immediately tending to self-preservation, or the gratification of natural passions; and reason, for the more laboured complicated deductions of the understanding*. The first being a direct attention to the calls of nature, and the present means of satisfying them, is tolerably uniform in the same species, and seldom errs; but the latter, being, if it may be so expressed, a balancing of motives and comparison of relations, is biassed so strongly by peculiar constitution, (which varies like

* *That* sees immediate good by present sense;
Reason, the future, and the consequence.

POPE.

the features though within a general resemblance) by local prejudices, particular education, and degrees of knowledge ; the compound operations of which several particulars vary so infinitely, that truth is seldom perceived untinged by them ; and thus scarcely any two species of animals differ more in external circumstances, than man does from man in judgment.

MAN, with all his noble powers, while he continues in a savage uncultivated state of life, without the assistance of the former experience of the improved part of mankind, possesses little beyond what is understood by instinct

stinct ; * and is scarcely superior to the
Orang-outang ; his knowlege increases
in

* In the well known story of Peter the wild boy, as he is even now in his old age generally called, we see of what importance the cultivation of our infant faculties is. This story is indeed in a good measure discredited by an anecdote furnished by a gentleman of veracity in an ingenious private controversial piece, with the perusal of which the author of this tract was favoured : the extracting of which it is hoped will not be taken amiss. — ‘ I have
‘ some reason, says he, to suspect that the story
‘ of Peter’s being found in a wood was an
‘ idle tale ; a German gentleman, with whom
‘ I was well acquainted at Paris, assured me
‘ he was nothing more than a poor peasant’s
‘ child, born an idiot ; and that the marvel-
‘ lous part of the story was invented over a
‘ bottle, for a jocular purpose, at the palace
‘ of H.’ — This is perhaps the most probable
account of him, but as the generally received

in proportion to his intercourse with his fellows ; and this intercourse is the principal

relation *may* be true, the following reasoning deduced from it, will not be the less valid, should even the premises be false.

This boy then, whose title to humanity is not disputed, is said to have been found by K. George I. in the woods in Germany, at about ten or twelve years of age, as was then supposed ; when his agility in climbing the trees, is reported to have been surprizing. He must in this case have been lost or left in the woods in his early childhood, perhaps soon after he was able to walk : this in all probability must also have been during summer, on the fruits of which season he might subsist, and be habituated to his wild way of life, before the approach of winter. His infant impressions in society being thus lost, his subsequent ones adapted to his savage situation, and not having had any opportunity of learning and practising speech, he

continues

cial source of human wisdom. Trade therefore, and the art of recording ideas, have made us what we are. The cultivation of humanity to the present state of polite and learned nations, has been the slow progressive work of all the past ages*. Improvements have made their way

continues to this day a meer orang-outang. The people with whom he is boarded, can make him break or cleave wood, draw water, or thresh in the barn, but his rude narrow mind could never be enlarged, owing principally to his never acquiring the habit of speech. This instance, either real or supposed, shews what man as an individual would be; and what he owes to the experience of former ages, carefully instilled into him by proper education, as his faculties open.

* Knowledge has been diffused with amazing rapidity, by the art of multiplying books at the

way among mankind, it may be truly said against their inclinations ; old prejudices are with difficulty eradicated, new notions and strange manners generally received with reluctance ; nay, oftentimes resented to the destruction of the proposers : some nations are highly civilized, while others at the same time with the examples before their eyes, still persevere in their barbarous ignorance and indolence. See the immediate dignity of human nature in the negroes of Guinea, in the moors of Barbary, and in the subjects to ecclesiastical tyranny !

printing-press : science has probably advanced as much in every year since the invention, as in every century before. It is impossible to say, to what degrees of knowledge man may not attain in time.

HAVING

HAVING by an examination of the progress of organization upward, attained a consistent idea of the constitution of man ; we will next examine the principles upon which his actuation depends. This indeed may be deemed superfluous, as from what has already been established, it follows, that no possible occurrence ever did, or ever can come to pass, but as the regular effect of adequate impelling causes *: nevertheless some men, otherwise of the best sense, having been driven to extremities in the defence of interested or favourite

* What we call *chance*, *accident*, or *contingence* ; are no exceptions : these terms being applied to events, the producing causes of which we either do not foresee, or cannot investigate.

systems,

systems, and reduced to advance an incoherent position, that the will of man operates spontaneously, superior to the influence of any causes or motives whatever! and some, to establish as inconceivable a mean between the two opinions; a *limited freedom* being, as was once quaintly expressed, unlimited nonsense: therefore the operations of the human mind, without attending to the pleas of the maintainers of free-will, are undertaken to be traced and considered more analytically.

MAN then, is born a most helpless being: on his first appearance, the chilliness of the air, and perhaps other causes, give the infant disagreeable sensations,

sensations, and it is impelled by construction to express its uneasiness by cries. This exertion occasions frequent and strong respiration, which operates to the expansion of the lungs; the play and powers of which are much greater in man, whose infant cries succeeded by almost continual discourse, keep them in constant exercise, than in most animals, whose occasional cries are effected by much stronger efforts. The babe thus learns at the same time what pain is, and how to express its dislike to it. The mother impelled by love to the produce of her own body, tends it with fond care herself, or causes the first offices to be performed for it by those who through affection or for hire,

are

are induced to assist her at such a critical season. The child put to the nipple learns to suck ; when its belly is full, it finds itself easy, and having no farther desire, necessarily falls asleep : when the stomach craves, the uneasiness awakens the child, and it cries for the breast again. Thus affairs proceed, the child growing stronger, and by the same degrees becoming acquainted with those persons and objects which are familiar to it. Of these it judges just as they affect it : whatever is evidently the cause of good, necessarily becomes the object of its desire and attachment ; the contrary, of its fear and hatred. In proportion as it is assisted, it now endeavours to speak its desires
by

by imitating the expressions it hears ; and its feet dictating their use, it imitates others, and learns to sustain its body on them. It is no sooner able to stand, than it is impelled to move from place to place, as objects attract or repel it by its wants, or the playfulness of its imagination. Thus it acquires by gradual experience, a knowledge of the common properties of whatever comes within its notice ; each of which properties, as its wants instigate it, becomes either an attractive or repulsive cause of all its volitions and actions. Its parents however, or the guardians of its youth, are by much the most disagreeable regulators of its conduct : these as yet supply the deficiencies

ficiencies of experience*; command it what to do, warn it what to shun and forbear; and chastise it for its wrong elections, that the fear of correction may become a stronger impulse than its own heedless desires, until habits are fixed, and its reason matured. The child now either grows up without farther instruction than what it may gather by its own observation, and lives in a proportional state of ignorance; or it is sent to school, that the current education of the country may be impressed upon its mind, and practised by its hand. The girl is now finished for ap-

* 'Tis education forms the tender mind;
Just as the twig is bent, the tree's inclin'd.

POPE.

pearance in the world, and in obedience to a radical propensity attaches herself to a man; which new connexion gives rise to another succession of impulses springing from the cares of a family: and the duties of wife, mother, and mistress, actuate her incessantly through life.

THE boy is yet to undergo a farther course of education, to enable him to act his part in carrying on the business of the world, and to gain his own particular subsistence: and the enlargement of his sphere of action, is only subjecting him the more to the necessities of existence. The ties of society, as child, servant, master, husband,

band, father, relation, neighbour, parishioner, subject, or king ; all the complicated obligations comprehended in the assemblage of as many of these characters as unite in any one person, occupy every moment of our lives, from the drawing our first breath to the resigning our last : and we reflect, will, speak and act, only as the impulses incessantly starting from the various circumstances attending these intricate connexions, necessarily determine us to the preference of one motive to another : our passions are stimulated, and our judgment led, by every circumstance around us ; as inevitably, as the ebullition of water follows a certain degree of heat, excited in the containing vessel.

MOTIVES

MOTIVES actuate the human mind as necessarily, as those qualities of matter which are evident to our senses operate on each other. Nothing being clearer than that with regard to every thought word and deed, in every instance that can be produced; persons *so constituted* in body and mind, and precisely *so circumstanced*, could not have willed and acted *otherwise* than was done.

EVERY person by self-examination may trace the operations of his own mind through all its workings. A concurrence of present circumstances prompts to every purpose to which

F

we

we incline: the necessity which all the animate and inanimate productions of nature have been proved to be under, regulate as necessarily all the proceedings of mankind respecting them; which, consistent with the purposes we desire to obtain, are under an inevitable obligation of being conformed to the various known properties and circumstances attending them. These therefore we deliberate on, antecedental and consequential, so far as we are able to discover them, in the particular mode wherein they appear to us; and having done this, preference is unavoidable, and indifference of doing or not doing, impossible. We may fluctuate in judgment, while different

ferent considerations counterpoise each other; but the final preponderation necessitates the will, and the determination of the will produces the action.

IN a train of abstract reasoning, we are equally under the same necessity: whatever subject be the object of our enquiry, whatever the purpose of our reasoning, the relation which all the parts and subdivisions of it, all the intermediate ideas in the analization of it, bear to each other, influences our assent or dissent to the deductions flowing necessarily from them; and we cannot resist the evidences which such necessary trains of consequences

exhibit to *our* particular view. Whether men reason from just principles or not, depends on their peculiar complexions of mind, and by how much they remain subject, or have risen superior, to particular prejudices*: and the acknowledgement of their convictions, depends on how much interested views, or the pride of self-sufficiency, may operate to the smothering such convictions.

It necessarily follows from the foregoing examination, that the mind of

* It is as necessary for men of clear understandings to soar beyond vulgar prejudices, in proportion to their abilities; as it is for others to remain in ignorance all their lives.

man is in every instance determined by motives resulting from his present wants, and his present opportunities of satisfying them: and his agency, the absence of foreign impediments being supposed, is wholly governed by volition, the last act of the mind: matter moving no farther than it is impelled.

LIBERTY therefore, if affirmed of the physical exercise of human volition or agency, comprehends an absurdity: as it cannot in this sense be ascribed to the arbitrary monarch, more than to the slave in an american plantation. In a moral sense, liberty signifies the absence of all impediments

to the carrying our wills into execution, freedom from foreign compulsion or restraint. Positive liberty therefore is inconsistent with any mode of government whatever; all laws being restraints upon the subjects to them. However, by customary usage, it is applied to the most rational schemes of society; those in which the fewest restraints are laid on the members, consistent with the strength and well-being of the whole: government, having for its object, the common good, not the private emolument of the governors; in which sense it stands opposed to slavery. Our private actions have all a reference to public ordinances,

dinances, and cannot therefore be said to be free.

HAPPINESS is a name invented for an ideal state of uninterrupted satisfaction; which from momentary perceptions of, we fondly wish prolonged to perpetuity. But this is an absurd desire after an impossibility. A prolonged satisfaction would tire and sicken us, would suspend all our actions by abstracting the causes of them, would cast us into a lethargy in which we should speedily die. Uneasiness in our present situation is the universal spring of action: we are continually altering it from present circumstances, as we

imagine for the better. Thus we proceed until vitality ceases.

PLEASURE and pain, are two terms expressive of agreeable and disagreeable sensations: these are not fixed modes of perception, but like heat and cold derive their very existence from each other; the sensations of each percipient being the standards of distinction to that party. Without pain there can be no pleasure, without pleasure no pain. They form two extremes, of which, a suspension of all feeling is the mean.

THERE is not a more lively type to illustrate the perceptions of the human

man mind, than that philosophical instrument contrived to mark the variations in the temperature of the air. In the thermometer the medium height of the spirits is that at which the air is understood to be in a neutral state, neither warm nor cold. Above and below this point, the changes to heat and cold, cause the spirits to play. This medium height, or point of nullity, is not a fixed one, but alters according to the general temperature of the air, in which the instrument is placed: nor can the thermometer be put in a situation, whether in a stone vault or a bed-chamber, in the frigid or the torrid zone, in which, during the course of the year, the spirits will
not

not rise as much above, as they are sometimes depressed below, this mean point.

THIS is life: in every character, in every station of it, pleasure and pain *regulate each other*. The intervals of ease in sickness, are enjoyed to a degree proportioned to the violence and duration of the pain resulting from the disorder: while the hearty man who boasts continued health, not experiencing a privation of it, can hardly be said to feel what is so familiar to him: his thermometer in this respect is almost stationary. The poor man, his sensations of poverty, and his enjoyments correspond; and in proportion

tion as the means of gratification are subtracted, he naturally reduces his desires and expectations with his circumstances; so that the balance is still the same: the desires of the rich man extend as his possessions enlarge; and the cares attending riches, and the pursuit of them, equal the difficulties in struggling through distress. Familiarity with any species of misfortune, deadens our sensations of it, so that no person really suffers so much as he seems to do: in like manner, a series of gratifications sickens our appetites, and no one enjoys all he is credited with. There is as much satisfaction to be discovered in the cobbler's countenance, as he sits in his stall heel-piecing a shoe,

shoe, as the nobleman displays lolling
in his gilded chariot*. It may re-
quire close-thinking to continue the
examination, but the parallel will hold
good in the comparison of every station
of existence.

WERE it not thus, were there not
a general balance in point of satis-
faction, is it likely that one part of
mankind, the majority, would tamely

- The learn'd is happy, nature to explore ;
- The fool is happy, that he knows no more ;
- The rich is happy, in the plenty given ;
- The poor contents him with the care of heaven :
- See the blind beggar dance, the cripple sing,
- The sot a hero, lunatic a king ;
- The starving chemist in his golden views
- Supremely blest ; the poet in his muse.

POPE.

suffer

suffer a minority to monopolize exclusive portions of the comforts of existence, while they lingered through life, pining for the want of them?

It is true, many nations endure oppression, which to others would be unsupportable: but such do not feel tyranny to the degree which people of a more enlarged way of thinking suppose. The less we think, the fewer desires we feel; and entertain the more reverence for those of our fellow creatures, who exercise lordship over us; tyrants therefore, civil and ecclesiastical, find the greatest security of their dominion, to consist in the ignorance of those whom they rule. But when
once

once a people contract a habit of enquiry and reasoning, tyranny totters : the attraction of new discoveries of what we esteem to be truth, becomes so strong, that no impediment, no danger, can deter us from investigation ; and as the mind opens to the admission of more light, our spirits rise in proportion against every mode of discovered imposition. Establishments may continue to imprison, fine, hang, or burn, those who advance notions which interfere with those enforced by such authority ; but happily it will never be in their power, totally to suppress the exertions of the human understanding. Such proceedings counter-work their own purposes ; TRUTH will

will appear by little and little, though the publishers of it perish successively in propagating it: as surely, as errors, however artfully and forcibly supported, will in the same proportion be exposed, and in the fulness of time be openly exploded.

MANKIND frequently bewilder themselves by starting difficulties, concerning the origin of what they comprehend in the general term EVIL. This is like children making a frightful figure, and then terrifying themselves with it. All our principles of reasoning must be derived from nature: philosophically speaking, we have no higher school of instruction, and can-

not therefore form a consistent idea of its being constituted otherwise than it is*. The defects we imagine ourselves to have discovered in it, arise from contemplating particular portions either of existence or duration, and reasoning from them as from entire systems; without reference to the remainder with which they inseparably connect, and on which they depend. Notwithstanding all the discoveries with which we pride ourselves, very short

* To refine upon distinctions between Omnipotence and Possibility, and to pretend to bound the power of God, by what in other words we call the laws of nature and truth; is to make a fatality, or power superior to God: or to suppose two Gods, one subordinate to the other!

and

and imperfect are the views which we are capable to receive of the entire scheme of nature! how then shall we dare to call in question the oeconomy of it! We see by all the occurrences which fall within our observation, that the proceedings of nature *necessarily* tend to maintain the uniform progressive harmony which subsists in every portion of it: ever changing, yet still the same.

To abstract what *we* call evil out of the world, must be to give to all the modifications of matter the same properties, or indeed to abstract all qualities or properties from them. But to abstract these affections from bodies, is scarcely, if any

G

degree,

degree, less than to abstract them from themselves, or at least to fix every thing like marble: in short, to petrify all the world, and all in the world: and to abstract the passions from the human constitution, would be totally to unravel it, and to destroy the animal system. What we call body, is distinguished from what is understood by space, without the one, the other could not be known; either or both of them may prove the cause of evil to us, while we are liable to fall down a precipice, and find solidity at the bottom: what then would the repiners at evil infer from this instance, which may be extended to all others? it may be worth their while to pause at this question.

Is

Is the dark return of night an evil?
 is not the successive revolution of the
 several parts of the earth through the
 shadow formed by its opacity, the
necessary means of exposing the whole
 to the enlivening influence of the sun?
 Are the storms and tempests during
 winter, evils? * do they not clear the
 atmosphere from all unwholesome ex-
 halations, caused by the long continu-
 ance of summer's heat? do they not
 prepare the exhausted ground for a re-

* Better for us, perhaps it might appear,

— — — — —
 That never air nor ocean felt the wind;
 That never passion discomposed the mind;
 But all subsists by elemental strife,
 And passions are the elements of life. POPE.

commencement of vegetation? Do not these changes make that various succession in human affairs, which we have seen constitute at once the principles of action, and the pleasures of life? Are the concussions of the earth, and the eruptions of volcanos, evils? are they not the vents for subterranean fires and vapours, which if they found no outlets, like gun-powder would blow up the face of the globe? It is an endless theme to expatiate on; and unless we knew more of nature, will be as imperfectly justified, as it is weakly impeached.

IN the animal world, the same chain of *necessary* causes and effects results in
uninterrupted

uninterrupted succession to the continuing all things as they are. The numerous swarms which inhabit the water, earth, and air, all perform their several organical functions, all uniformly keep their distinct tribes without intermixture, and without any one overrunning another, though several of them subsist entirely by devouring others *: all

* The preying of one animal upon another, is a great objection with many against the oeconomy of nature : but let such discontented people trace the gradation of things as they are. Vegetables imbibe their nourishment from the earth, which is assimilated into the substance of plants, shrubs, and trees: but *earth* would not be food sufficiently refined and nutritive in its gross substance, to supply the appetites of *animals*; since their food when exhausted of its

all which demonstrates absolute govern-

finer parts, and ejected, is *then* a mass capable of increasing the fertility of land. Animals therefore not being capable of subsisting on earth, find some of them in herbage that food which suits their natures. For others, even vegetables are too cold and hungry diet; such therefore are impelled to seize other creatures which they can master. This is the gradational system of production: man, who profits by the observation of all nature, seeing some creatures prey on herbs, and others on animal substances, adopts both practices, as suits his several circumstances. In this view it does not appear more unjustifiable to kill a sheep than to cut a cabbage, for the sake of food. However, these things are so: and being so, throughout every department of existence, we can only argue from the general destination, which teaches us that beings to subsist on raw earth, could not be possessed of powers equal to those, which we see require to be sustained by more refined aliment.

ment,

ment, by the necessary determinations constitutionally assigned to each species, which actuate them by laws as inevitable as those inherent in inanimate substances.

NOR is man omitted in, or beyond the limits of the general system. It is true, his field of action is much more extensive than that of any other being on earth; he is subject therefore to a greater variety of vicissitudes: but it is as little in his power to controul the impulses which actuate every function he boasts, as in that of the reptile he treads under his feet. The bias of constitution, local and particular prejudices, frequently indeed in-

produce evils into the moral system of society, but these evils like all others work their cure. Individuals seek what each esteems his particular good, and seldom carry their considerations much farther : if their interests interfere, this impels to the establishing regulations having for their object the welfare of the public in general, in the limitation and security of private right ; which if not observed, would disunite every bond of connexion, and throw all affairs into confusion. Thus particulars, whose modes of thinking are erroneous, and who therefore are unequal to the direction of their own actions, are assisted with the united wisdom of their country, expressed in compulsive instructions

structions called laws. Offenders against these laws are punished, to reform them and deter others, or they are destroyed as noxious members, and for public examples. Thus laws become impulses generally superior to those of criminal desires. All this is by *necessity*: when evils appear, we are impelled to apply what are esteemed suitable remedies. When governments grow oppressive, that is when they are thought so by the sufferers, for it is not in nature to yield to destruction, without endeavouring to overcome it; then the people recollect their strength, and rousing their dormant spirits, oppose their tyrants, and regenerate the principles of government. Thus societies

ties are upheld, and from time to time as occasions necessitate, rectify their public decrees, to maintain a balance among their members: nations also, are continually negotiating and contending in arms to uphold a balance of power among themselves. It is a pleasing speculation to contemplate mankind, as philosophers sometimes observe bees and ants: to trace the necessary tendency of particular and interfering interests, which, from individuals to families, from families to the several sub-divisions of national society, from these to nations, and from nations to the whole globe, naturally correct each other, and blending together, make the powers of all operate to the good
of

of all.*. No one occurrence or action is entirely compleat in itself, but depends on, and flows from, many series of others; which have continued in an uninterrupted chain of dependence and intricate connexion, ever since nature had a being; or from eternity.

VISIONARY philosophers may distinguish between what they call natural, and what they term artificial society; may harangue as much as they please in praise of the one, and declaim till

* On their own axes as the planets run,
Yet make at once their circle round the sun;
So two consistent motions act the soul;
And one regards itself, and one the whole.

POPE.

they

they are weary against the other : not seeing, that it is absolutely impossible for men to live in continual violation of the laws of nature. In what is understood by natural society, it would be impossible for a community to live in common without particular property, supposing the wants of nature to be reduced to the fewest possible articles : for unless we enjoyed a fabulous golden age, the earth will not produce sufficiency of fruits without cultivation ; nor can men, if they maintain their rank as rational beings, subsist without labour : and in a state of equality, unless it were possible to inspire all with an equal desire to share the common labour, as well as the common profit,

particular

particular property will ensue: this enforces the one by the temptation of the other, and is the natural result of society. A few straggling lazy shepherds supposed to be piping away their time, or rather indeed lousing themselves, among their cattle, is not society. Particular property once introduced, all the experienced consequences of intricate connexions among men possessed of such claims, will inevitably follow: and every evil producing its remedy, the bonds of society are multiplied, suited to all occasions.

It is the same whether men contend for sheep-skins, corn, and fish, or for estates, merchandise and money; the same passions are agitated, though their disputes will be managed as differently as
their

their manners vary : and when superior industry and improvements in arts and sciences, have multiplied productions and manufactures, nature is still uniformly the same, nor do mankind depart, nor can they continue to depart in the least from her dictates. • The means of subsistence, if not the luxuries of life, are just as easy to be obtained in a populous trading country, as by the scattered inhabitants of african or american wilds. If one man accumulates great possessions, he requires the assistance of his fellow-creatures to increase and maintain them ; and is therefore obliged to subsist *others* out of what he calls *his* property. The cavils therefore against artificial society, are *vox et preterea nihil*.

FROM such considerations, may we acquire a standard by which to estimate
 I the

the comparative worth of all human actions. What we find good or pleasing to ourselves; reasoning by analogy we justly conclude to be good or pleasing to others; and this mode of reasoning, if sincerely attended to, is the only source of true morality*. Whatever is either immediately, or in its necessary consequences, productive of good to the actors or others, may be truly called a virtuous action: whatever results in present or future damage, which may be foreseen in the commission of it, is as certainly vice: and whatever necessarily in-

* Self-love but serves the virtuous mind to wake,
 As the small pebble stirs the peaceful lake;
 The centre mov'd, a circle strait succeeds,
 Another still and still another spreads;
 Friend, parent, neighbour first, it will embrace,
 His country next, and next all human race.
 Wide and more wide, th' o'erflowings of the mind,
 Take every creature in of every kind. POPE.

volves

volves both these qualities, is commendable or censurable according to an impartial estimate of its predominant tendencies. This is natural virtue and vice with reference to the intention. The laws of particular countries may indeed take cognizance of actions essentially indifferent in any of their views; but this flows from the craft of government, ruling mankind by habitual local prejudices; when, such actions being either enforced or prohibited, are made to rank under the before specified definitions. With respect to any reward due to, or entailed upon, virtue*, or punishment on vice, beyond what necessarily result from the circumstances of actions themselves, including the cognizance of the laws

* What nothing earthly gives, or can destroy,

The soul's calm sunshine and the heart-felt joy,

Is virtue's prize ————— POPE.

where

where they are transacted ; they are philosophically inconceivable : for, if *I* perform an action, which neither tends to injure *my* health nor property, nor violates *my* notions of rectitude, which excites no resentment against *me* in particulars, nor is culpable by, or escapes the notice of, the laws of *my* country ; it cannot, abstracted from such considerations, ever be productive of evil to *me*, in any sense : and if it answers *my* purpose, *I* in the completion of that purpose receive *my* reward. We cannot proceed demonstratively beyond this, if we argue to eternity.

THE writer of this tract has cursorily pursued his subject as far as the known phænomena of nature, which came under his notice, have led him : and he was necessarily determined to the tracing

H

the

the argument upon paper from the persuasion of its being demonstratively true. Whether his opinion taken altogether be a singular one, or whether he has the satisfaction to find others agree in the same sentiments, is of very trifling importance: our actions proceed rather from our feelings than from speculative opinions. Opinions cannot alter facts, and we shall continue to act just as we have always done, whether we imagine our wills to be free, or to flow from necessary motives. The doctrine of necessity, so far from arguing the uselessness of endeavours, or tending to relax the incitements to action, as is frequently objected; will to those who understand the subject, at the same time that it renders them more easy with regard to the vicissitudes of life, from a knowledge that all effects are adequate to their causes, prompt them to a continued exertion

exertion of endeavours, by inverting this consideration: since whatever effects we desire to produce, we know we must exert endeavours equal to the production of them: if they are duly proportioned, the purposes are attained: if otherwise, we are necessarily disappointed. This however must be understood of matters within our sphere of action and comprehension, or which are supposed to be within our power; of the rest, we can only act to the best of our judgment, and hope for a suitable event*.

* The intelligent reader will not need to be cautioned against confounding *necessity* with the strange the terrible dictates of *predestination*: he will clearly distinguish between what have no affinity with each other. When therefore any person in banter, urges necessity as the sufficient cause of, or excuse for, any action in this view; he surely can only expect to receive a smile for his ingenuity.

MANY persons oppose this doctrine of necessity by inferences, and by arguing from consequences : { but this is not only unfair, but childish. The question *itself*, is what is to be settled : whenever it can be clearly shewn, that the human Will ever determines without being influenced by relations or motives, then man may be called free : the argument is thus brought to a short issue. When this is done, the advocates for free-will, may be eased of their apprehensions, lest truth should be proved untrue : but if truth be found on the side of necessity, then, all necessary inferences from it, ought, and must be admitted, be they what they may.

Whoever

Whoever does not examine the previous question exclusive of all relative considerations, is not equal to the investigation of it; nor is searching for truth, but for something else.

AFTER all, the disputes concerning the freedom of the human will, appear to be employed rather about words than things; since it does not appear probable, that the advocates for freedom can undertake to deny in general, that every change in the appearances of nature, is the regular effect flowing from certain producing causes; nor in particular, what indeed is involved in the former position, that every animal action has its motives: if these two principles

principles are allowed, all disputes concerning them will cease of course ; as necessitarians contend for no more.

THIS, as at first premised, has been prosecuted as a philosophical argument : the writer is very sensible that the oeconomy of nature respecting man, is accounted for from other principles ; but it is curious to discover how far, and to what conclusions, the meer light of reason employed on the objects of nature would lead us. The writer pretends to nothing farther. We have however numbers of able and willing disputants of all persuasions ; should any of these gentlemen from the reading this piece be impelled to argue against impulses,

impulses, with any particular references to this tract, he will with pleasure attend to them, though he may not presume to engage with champions, who may arm themselves with weapons different from those he pretends to handle.

To conclude ;

Every production of Nature, *is precisely* what it was intended to be ; both as to constitution and powers : since nothing can exert powers that were not first communicated to it ; and *these* cannot be exceeded. The exercise of them is regulated by universal reaction. Action and re action subsist all Nature, and produce all the phænomena observable in it.

THE

PHILOSOPHY does not appear capable of conducting us farther in our endeavours to account for material qualities and vital action: the subject of this little tract, cannot therefore be better summed up than in the words of Mr. POPE, which were assumed as a motto. Thus ending where it began.

*All are but parts of one stupendous Whole!
Whose body Nature is, and God the Soul!*

F I N I S.



E R R A T U M.

Page 28. line 12. after the word *organization*,
add *while in a state of vegetation*.

